REMARKS

Applicant respectfully requests further examination and reconsideration in view of the instant response. Claims 1-24 remain pending in the case. Claims 1-24 are rejected. Claims 1, 3, 6-9, 12, 14, 16-18, 20 and 22-24 are amended herein. No new matter has been added.

35 U.S.C. §102(b)

Claims 1-3, 6, 7, 12-16 and 20-22 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent 5,403639 by Belsan et al, hereinafter referred to as the "Belsan" reference. Applicant has reviewed the cited reference and respectfully submits that the embodiments of the present invention as recited in Claims 1-3, 6, 7, 12-16 and 20-22 are not anticipated by Belsan in view of the following rationale.

Applicant respectfully directs the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

> A method of archiving a database, comprising the steps of:
> storing a plurality of archive logs comprising a plurality of transactions on an operational database;
> transmitting a plurality of asynchronous streams to a backup database, wherein the asynchronous streams correspond to a plurality of archive logs; and
> updating the backup database with the plurality of transactions.

Independent Claims 12, 14 and 20 recite similar limitations. Claims 2, 3, 6 and 7 that depend from independent Claim 1, Claim 13 that depends from independent Claim 12, Claims 15 and 16 that depend from independent Claim 14, and Claims 21 and 22 that depend from independent Claim 20 provide further recitations of features of the present invention.

Applicant respectfully asserts that Belsan and this embodiment of the claimed invention are very different. Applicant understands Belsan to teach a file server that defines, manages and accesses synchronized sets of data (Abstract). In particular, Belsan teaches a file server for concurrently managing a plurality of data sets or data records (col. 6, lines 46-51). The file server maintains the synchronized sets of data external from the data management facilities of the data processor (col. 2, lines 15-19). In general, Applicant understands Belsan to teach a file server system that allows for data in multiple locations, for example data of a data set or a data record, to be managed, allowing "the end user to reference that set of data sets as a single entity for creation, access and deletion operations" (col. 2, lines 28-31). Effectively, Belsan teaches a file server system having multiple operational databases (e.g., data that is accessible for management) and no backup database (e.g., data that is not accessible for management).

Specifically, the file server system of Belsan "directly manages all of the data records stored therein" (col. 7, lines 42-44, emphasis added). In general,

Applicant understands that the data sets of Belsan are copied to multiple locations, and are managed such that data can be created, accessed and deleted. In other words, the data sets of Belsan are all available to end users for active management.

In contrast, embodiments of the claimed invention are directed towards a method of archiving a database wherein a plurality of transactions are archived in a backup database. In particular, embodiments of the invention provide for "transmitting a plurality of asynchronous streams to a backup database, wherein the asynchronous streams correspond to a plurality of archive logs." As described in the application, an operational database is accessible for addition, deletion or modification of data while a backup database contains an archived copy of the complete set of data residing on the operational database (page 7, line 24 through page 8, line 1). The data stored on the backup database is not accessible for management (e.g., addition, deletion or modification). Rather, transactions on the operational database are stored in an archive log, which is then transferred to the backup database.

Applicant respectfully asserts that Belsan in particular does not teach, disclose, or suggest transmitting a plurality of asynchronous streams to a backup database, as clamed. On the contrary, Belsan teaches away from such a configuration, as Belsan provides that all data sets of the file server system

are concurrently managed and synchronized, and are thus effectively operational databases.

Furthermore, Applicant understands Belsan to teach a file server system wherein data records are not transmitted to a backup database. In particular, "without having to physically relocate the data record on the devices contained in the file server system 1, the file server system 1 can effectively accomplish an instantaneous move or copy of a data record in a manner that appears to the data processor 2 to be a physical movement or replication of the data record from one physical device to another physical device even though the data record is not moved and the pointers thereto are simply managed by the file server system 1" (col. 7, lines 53-62, emphasis added). Applicant understand Belsan to teach a file server system where data is not physically moved, but rather data is mapped using a pointer redirection scheme

In contrast, the claimed embodiment of the present invention provides a database archive and method thereof that transmits "a plurality of asynchronous streams to a backup database". The backup database is updated with the transactions. Moreover, a plurality of archive logs comprising a plurality of transactions are transmitted over asynchronous streams to a backup database. Applicants respectfully assert that since the data of Belsan is not moved, but rather mapped, Belsan does not teach, disclose or suggest transmitting a plurality of asynchronous streams to a backup database.

Applicant respectfully asserts that nowhere does Belsan teach, disclose or suggest the present invention as recited in independent Claims 1, 12, 14 and 20, and that this claimed subject matter is thus in a condition for allowance. Therefore, Applicant respectfully submits that Belsan also does not teach or suggest the additional claimed features of the present invention as recited in Claims 2, 3, 6 and 7 dependant on allowable base Claim 1, Claim 13 dependant on allowable base Claim 12, Claims 15 and 16 dependant on allowable base Claim 14, and Claims 21 and 22 dependant on allowable base Claim 20. Therefore, Applicant respectfully submits that Claims 2, 3, 6, 7, 13, 15, 16, 21 and 22 overcome the rejection under 35 U.S.C. § 102(b), and are in a condition for allowance as being dependent on allowable base claims.

35 U.S.C. §103(a)

Claims 4, 8-10, 17-19, 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of United States Patent RE37,857 by Browne, hereinafter referred to as the "Browne" reference. Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 4, 8-10, 17-19, 23 and 24 is not anticipated nor rendered obvious by Belsan in view of Browne.

Applicants respectfully direct the Examiner to independent Claim 8 that

recites that an embodiment of the present invention is directed to (emphasis

added):

> A method of performing automatic recoveries on an archived database, comprising the steps of:
>
> comparing files residing on an <u>operational database</u> to files residing on a <u>backup database</u>;
>
> determining whether there are any missing files by checking for files which exist on the operational database and which do not exist on the backup database;
>
> recopying files from the operational database over to the backup database which are missing;
>
> determining whether there are any corrupted files by checking for files which have a different size on the operational database as compared to corresponding file residing on the backup database;
>
> recopying files from the operational database to the backup database which have become corrupted, wherein the automatic recovery process is run by a program without human intervention.

Independent Claims 17 and 23 recite similar limitations. Claims 9 and 10 that

depend from independent Claim 8, Claims 18 and 19 that depend from

independent Claim 17, and Claim 24 that depend from independent Claim 23

provide further recitations of the features of the present invention.

The combination of Belsan and Browne does not teach a device or

method for performing automatic recoveries on an archived database. As

described above, Belsan and the claimed invention are very different. In

particular, Belsan teaches a file server for concurrently managing a plurality of

data sets or data records (col. 6, lines 46-51). Applicant understands Belsan to

teach a file server system that allows for data in multiple locations, for example

data of a data set or a data record, to be managed, allowing "the end user to reference that set of data sets as a single entity for creation, access and deletion operations" (col. 2, lines 28-31). Effectively, Belsan teaches a file server system having multiple operational databases (e.g., data that is accessible for management) and no backup database (e.g., data that is not accessible for management).

Specifically, the file server system of Belsan "directly manages all of the data records stored therein" (col. 7, lines 42-44, emphasis added). In general, Applicant understands that the data sets of Belsan are copied to multiple locations, and are managed such that data can be created, accessed and deleted. In other words, the data sets of Belsan are all available to end users for active management, and are thus operational databases.

In contrast, embodiments of the claimed invention are directed towards a method of performing automatic recoveries on an archived database. In particular, embodiments of the invention provide for "comparing files residing on an operational database to files residing on a backup database." As described in the application, an operational database is accessible for addition, deletion or modification of data while a backup database contains an archived copy of the complete set of data residing on the operational database (page 7, line 24 through page 8, line 1). The data stored on the backup database is not accessible for management (e.g., addition, deletion or

modification). Rather, transactions on the operational database are stored in an archive log, which is then transferred to the backup database.

Applicant respectfully asserts that Belsan in particular does not teach, disclose, or suggest method of performing automatic recoveries on an archived database comprising comparing files residing on an operational database to files residing on a backup database, as claimed. On the contrary, Belsan teaches away from such a configuration, as Belsan provides a plurality of operational databases and no backup databases.

Moreover, the combination of Belsan and Browne fails to teach or suggest this claim limitation because Browne does not overcome the shortcomings of Belsan. Browne, alone or in combination with Belsan, does not show or suggest performing automatic recoveries on an archived database comprising comparing files residing on an operational database to files residing on a backup database.

Applicant understands Browne to teach a data processing system for a communications network. In particular, Applicant respectfully asserts that Browne teaches actively updating and managing a Routing Reference Model (RRM). The RRM is a database giving routing information that is be updated. Thus, the RRM is effectively an operational database rather than a backup

database. Furthermore, the RRM is compared to other RRMs (e.g., operational databases) for mismatches.

In contrast, as described above, embodiments of the claimed invention are directed towards a method of performing automatic recoveries on an archived database including comparing files residing on an operational database to files residing on a backup database. Applicant respectfully asserts that Browne in particular does not teach, disclose, or suggest method of performing automatic recoveries on an archived database comprising comparing files residing on an operational database to files residing on a backup database, as claimed. On the contrary, Browne teaches away from such a configuration, as Browne provides for comparing a plurality of operational databases and no backup databases.

Applicants respectfully assert that nowhere does the combination of Belsan and Browne teach, disclose or suggest the present invention as recited in independent Claims 8, 17 and 23, and that these claims are thus in condition for allowance. Therefore, Applicant respectfully submits the combination of Belsan and Browne also does not teach or suggest the additional claimed features of the present invention as recited in Claims 9 and 10 dependant on allowable base Claim 8, Claims 18 and 19 dependant on allowable base Claim 17, and Claim 24 dependant on allowable base Claim 23. Furthermore, Applicant respectfully submits the combination of Belsan and

Browne also does not teach or suggest the additional claimed features of the present invention as recited in Claim 4 dependant on allowable base Claim 1. Applicants respectfully submit that Claims 4, 9, 10, 18 and 24 overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of United States Patent 5,812,398 by Nielson, hereinafter referred to as the "Nielson" reference. Claim 5 is dependent on allowable base Claim 1. Applicants respectfully submit that Claim 5 overcomes the cited art of record and is patentable in view of 35 U.S.C. § 103(a).

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of Browne and further in view of Nielson. Claim 11 is dependent on allowable base Claim 8. Applicants respectfully submit that Claim 11 overcomes the cited art of record and is patentable in view of 35 U.S.C. § 103(a).

CONCLUSION

Based on the arguments presented above, Applicant respectfully

asserts that Claims 1-24 overcome the rejections of record and, therefore,

Applicant respectfully solicits allowance of these Claims.

The Examiner is invited to contact Applicant's undersigned

representative if the Examiner believes such action would expedite resolution

of the present Application.

Respectfully submitted,

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Dated: 19 June , 2003

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